

### REMARKS

Claims 1, 2-11 and 13-15 are pending in this application, of which claims 1 and 10 are independent.

#### Prior Art Rejections

##### *Independent Claim 1*

The Examiner rejected claims 1, 3, 5, and 7 as being unpatentable over Sinha (2003/0183410) in view of Morita (U.S. 6,344,956). The Examiner acknowledges that Sinha fails to disclose a power flow controller (see page 3, Office Action). However, the Examiner argues that Morita teaches a power flow controller that selectively regulates power flowing through a superconductive line.

We submit, however, that Sinha in view of Morita neither disclose nor would render obvious a multi-line utility power transmission system including “a power flow controller, coupled to the second power transmission line, for *selectively* regulating at least one of the magnitude and direction of the power flowing through the second power transmission line,” as recited in amended claim 1, with the second power transmission line being a superconductive line.

Morita discloses a current-limiting device that acts as a “circuit-breaker” (col. 7, line 39). Morita explains that

in order to meet the specification standards for a circuit-breaker it is necessary for it to operate at the point where the current value flowing through the current-limiting element exceeds a given value. The detection of abnormal current can also be based on the degree of time variation of the current flowing through the current-limiting element, while considering the size of the impedance of the transformer. The element can also be quenched even when the two conditions mentioned above are not met, in which case damage to the element can be prevented by referring to the voltage generation in the current-limiting element (col. 7, lines 38-48).

In sum, in each of these three scenarios, Morita's *current-limiting device* responds to certain conditions on the line. According to Morita, the conditions are when (1) the device detects current that exceeds a given value; (2) the device detects abnormal current can be based on the degree of time variation while considering the size of the impedance of the transformer; or (3) the device detects a certain voltage in the current-limiting element of the device. In contrast,

in our invention, it is *the magnitude and/or the direction of the power flow* that responds to the “power flow controller.” Therefore, in this regard, the power flow controller as recited in amended claim 1 *selectively* regulates power flowing through a superconductive line without being limited to pre-conditions, as taught in Morita.

For at least these reasons, we submit that claim 1 is patentable over Sinha and Morita, alone or in combination. We also submit that because claims 3, 5 and 7 depend from claim 1, these dependent claims are patentable for at least the same reasons that independent claim 1 is patentable.

#### *Dependent Claim 4*

The Examiner rejected claim 4 as being unpatentable over Sinha and Morita and further in view of Talisa. Sinha and Morita have been discussed above. We submit that Talisa, alone or in combination with Sinha or Morita, does not disclose or render obvious a multi-line utility power transmission system including “a power flow controller, coupled to the second power transmission line, for selectively regulating at least one of the magnitude and direction of the power flowing through the second power transmission line,” as recited in claim 4, with the second power transmission line being a superconductive line. For at least these reasons, we submit that claim 4 is patentable over Sinha and Morita in further view of Talisa.

#### *Dependent Claim 6*

The Examiner rejected claim 6 as being unpatentable over Sinha and Morita and further in view of Shimomura. Sinha and Morita have been discussed above. We submit that Shimomura, alone or in combination with Sinha or Morita, does not disclose or render obvious a multi-line utility power transmission system including “a power flow controller, coupled to the second power transmission line, for selectively regulating at least one of the magnitude and direction of the power flowing through the second power transmission line,” as recited in claim 6, with the second power transmission line being a superconductive line. For at least these

reasons, we submit that claim 4 is patentable over Sinha and Morita in further view of Shimomura.

*Dependent Claims 8 and 9*

The Examiner rejected claims 8 and 9 as being unpatentable over Sinha and Morita and further in view of Hingorani (U.S. 5,420,495). Sinha and Morita have been discussed above. We submit that Hingorani, alone or in combination with Sinha or Morita, does not disclose or render obvious a multi-line utility power transmission system including "a power flow controller, coupled to the second power transmission line, for selectively regulating at least one of the magnitude and direction of the power flowing through the second power transmission line," as required by claims 8 and 9, with the second power transmission line being a superconductive line. For at least these reasons, we submit that claims 8 and 9 are allowable over Sinha and Morita in further view of Hingorani.

*Independent Claim 10*

The Examiner rejected claims 10, 11, and 13-14 as being unpatentable over Sinha, Morita and Hingorani. The Examiner acknowledges that Sinha fails to teach determining and regulating the level and amount of power flow through the second transmission line (see page 5, Office Action). The Examiner argues that Morita teaches this feature with its current-limiting device.

We submit, however, that there is no motivation to combine Sinha with Morita and Hingorani to teach a method including "selectively regulating the amount of power transferred through the second power transmission line," as recited in amended claim 10, with the second power transmission line being a superconductive line. As discussed in conjunction with claim 1, we submit that Morita current-limiting device does not selectively regulate power flowing through a superconductive line.

As for Hingorani, it discloses "a method of controlling power flow in either direction between first and second power systems" and the method includes "steps of monitoring a parameter of power flowing through the transmission line, and in response to the monitoring

step, selectively coupling a variable capacitive impedance to the transmission line” (col. 2, lines 45-47, 51-55). However, Hingorani does not teach that the method regulates power flow over a superconductive line, as recited by claim 10. As argued in our previous response of May 16, 2006, and as conceded as persuasive by the Examiner (see page 2, Office Action), we submit that, if anything, Hingorani suggests regulating a non-superconducting line, but Hingorani makes no mention of the possibility of regulating a superconductive line.

Therefore, there is no motivation to combine Sinha with Morita or Hingorani to teach a method including “selectively regulating the amount of power transferred through the second power transmission line,” as recited in amended claim 10.

For at least these reasons, we submit that claim 10 is patentable over Sinha, Morita and Hingorani, either alone or in any proper combination. We also submit that because claims 11, 13 and 14 depend from claim 10, these dependent claims are patentable for at least the same reasons that independent claim 10 is patentable.

#### *Dependent Claim 15*

The Examiner rejected claim 15 as being unpatentable over Sinha, Morita and Hingorani, and further in view of Shimomura. Sinha, Morita and Hingorani have been discussed above. We submit that Shimomura, alone or in combination with Sinha, Morita, and Hingorani, does not disclose or render obvious a method including “selectively regulating the amount of power transferred through the second power transmission line,” as recited in claim 15, with the second power transmission line being a superconductive line. For at least these reasons, we submit that claim 15 is patentable over Sinha, Morita and Hingorani, in further view of Shimomura.

It is believed that all of the pending claims have been addressed. The absence, however, of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been addressed. Finally, nothing in this paper should be construed as

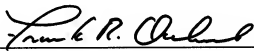
an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, we submit that the application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Please apply any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket Number 05770-189001.

Respectfully submitted,

Date: September 21, 2004

  
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